

Gamma Ray vs. UV Energy Explanation

<https://gemini.google.com/app/412157402c5a4ba0>

Response: To evaluate whether the second statement (right) correctly explains or supports the first statement (left):

1. **Assertion (Left):** "Gamma rays have higher energy than Ultra Violet rays."

- **Energy-Frequency Relation:** The energy of a photon is given by Planck's equation:

$$E = h\nu$$

where E is photon energy, h is Planck's constant, and ν is frequency.

2. **Reasoning (Right):** "UV rays have lower frequency range than gamma rays."

- Gamma rays operate at frequencies above 10^{19} Hz, while ultraviolet (UV) radiation ranges from approximately 7.5×10^{14} Hz to 3×10^{16} Hz.
- Since $E \propto \nu$, a lower frequency directly means lower energy (or conversely, higher frequency means higher energy).

Both statements are factually correct, and the statement on the right serves as the direct scientific rationale for the statement on the left.
